

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Nectin-1 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human Nectin-2, 3, 4, or recombinant mouse Nectin-1 is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 610835
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Nectin-1 Gln31-Thr334 Accession # Q15223
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	U937 human histiocytic lymphoma cell line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Nectin-1 (designated CD111), also called PRR-1 (poliovirus receptor-related protein 1) or HVEC (herpesvirus entry mediator C), is a widely expressed 110 kDa type I transmembrane glycoprotein important in formation of adherens junctions and synapses. It is a member of the nectin family within the Ig superfamily (1, 2). The Latin word *necto* means "to connect", indicating the role of nectins in Ca²⁺-independent cell-cell adhesion (2). Nectin-1 forms homodimers in *cis*, followed by interactions in *trans* with Nectin-1, -3 or -4 (2). The 517 amino acid (aa) human Nectin-1 isoform 1 contains a 30 aa signal sequence, a 325 aa extracellular domain (ECD), a 21 aa transmembrane segment (TM), and a 141 aa cytoplasmic region. Nectin ECDs contain three Ig-like domains: an N-terminal V-type that mediates ligand binding and two C2-type (3). Nectin-1, like other nectins, has a splice form (isoform 2 or HigR, 458 aa) with alternate TM and cytoplasmic sequences. Another, isoform 3, is a 352 aa secreted protein (4). The common region of mature human Nectin-1 (aa 31-334) shares 93%, 94%, 96% and 96% aa identity with mouse, rat, bovine and porcine Nectin-1, respectively. Nectin-1 binds viral glycoprotein D to mediate herpesvirus (but not poxvirus) entry into vaginal mucosa, sensory neurons and fibroblasts (4 - 7). In forming adherens junctions and synapses, nectins 1 and 3 initiate cell-cell interactions, recruiting α_vβ₃ integrin extracellularly and cadherins intracellularly through afadin and other junctional proteins (2, 8 - 11). These interactions organize the cytoskeleton, strengthen attachment to basement membrane and promote further cell-cell connections. Nectin-1 also recognizes CD96 on NK cells (12). Deficiency of Nectin-1 can result in cleft lip/palate ectodermal dysplasia (13). Nectin-1 downregulation in epithelial cancers, mediated in part by ectodomain shedding, may contribute to invasiveness (14).

References:

- Lopez, M. *et al.* (1995) *Gene* **155**:261.
- Takai, Y. *et al.* (2008) *Nat. Rev. Mol. Cell Biol.* **9**:603.
- Fabre, S. *et al.* (2002) *J. Biol. Chem.* **277**:27006.
- Lopez, M. *et al.* (2001) *J. Virol.* **75**:5684.
- Cocchi, F. *et al.* (1998) *Proc. Natl. Acad. Sci. USA* **95**:15700.
- Linehan, M. M. *et al.* (2004) *J. Virol.* **78**:2530.
- Simpson, S. A. *et al.* (2005) *J. Neurovirol.* **11**:208.
- Mizoguchi, A. *et al.* (2002) *J. Cell Biol.* **156**:555.
- Togashi, H. *et al.* (2006) *J. Cell Biol.* **174**:141.
- Tachibana, K. *et al.* (2000) *J. Cell Biol.* **150**:1161.
- Takai, Y. and H. Nakanishi (2003) *J. Cell Science* **116**:17.
- Seth, S. *et al.* (2007) *Biochem. Biophys. Res. Commun.* **364**:959.
- Suzuki, K. *et al.* (2000) *Nat. Genet.* **25**:427.
- Tanaka, Y. *et al.* (2002) *Biochem. Biophys. Res. Commun.* **299**:472.

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